2001 Conceptual Water Budget

A conceptual water budget has been prepared from the assembled 2001 pumpage, recharge and surface water discharge data. Estimates of long-term natural recharge that have been developed from the Prescott model update are used for that water budget component. The 2001 conceptual water budget for the Prescott AMA which is summarized in the Table 11 indicates that groundwater outflows exceeded inflows, resulting in a –11,510 acre-foot overdraft for the year.

Conceptual Water Budget (2001) – Prescott AMA

(Figures rounded to nearest 10 acre-feet)

Groundwater Inflows	**2001 Volume (acre-feet)**
Natural Recharge (1)	5,750
Incidental Recharge (2)	2,260
Artificial Recharge:	
(City of Prescott) (3)	3,020
(Prescott Valley) (4)	1,700
Total Inflows	12.730
Groundwater Outflows	
Groundwater Pumpage:	
Non-Exempt (5)	18,170
Exempt (6)	1,700
Groundwater Discharge:	
Underflow to Big Chino (7)	1,800
Del Rio Springs Discharge (8)	1,230
Agua Fria Baseflow near Humboldt (9)	1,340
Total Outflows	24,240
Inflow – Outflow = (Overdraft)	-11,510

(1) Estimate for average annual mountain front recharge (Nelson, 2001, pg. 9).
(2) Estimated at 50% agricultural water use for 2001 (Corkhill, and Mason, 1995, pg. 58), (Nelson, 2001, pg. 9).
(3) Includes treated effluent and surface water. 2001 - City of Prescott Annual Underground Storage Facility Report-Schedule 71.
(4) Data provided by Neil Wadsworth – Town of Prescott Valley (8/1/2002 personal communication to Frank Corkhill). Includes effluent recharged in channel of Agua Fria River and in PV lakes.
(5) ADWR Registry of Groundwater Rights database.
(6) Estimated domestic and exempt well pumpage in Prescott AMA groundwater basin area only. 1,400 acre/feet per year of additional domestic well pumpage estimated for surrounding mountainous area (see pumpage section of this report for further details).
(7) ADWR model simulated underflow to Big Chino in 1999 (Nelson, 2001, pg. 13, Table 5).
(8) USGS 2001 annual discharge at Del Rio Springs gage (09502900). Note! Unquantified diversions of groundwater discharged from the cienega above the USGS Del Rio Springs gage are not reflected in the gage's annual total. Also a minor, unquantified volume of groundwater supports a small riparian area in the immediate area of the springs. Total 1999 ADWR- model simulated groundwater discharge including undifferentiated ET component at Del Rio Springs = 1,800 AF/yr (Nelson, 2001, pg. 13, Table 9).
(9) USGS 2001 annual discharge at the Agua Fria gage near Humboldt (09512450). Annual discharge not reduced to account for minor surface water runoff. Total 1999 ADWR – model simulated groundwater discharge including a minor undifferentiated ET component to Agua Fria River near Humboldt = 1,400 AF/yr (Nelson, 2001, pg. 13, Table 9).